Congressman Roscoe G. Bartlett
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The SPEAKER pro tempore (Mr. *Price* of Georgia). Under the Speaker's announced policy of January 4, 2005, the gentleman from Maryland (Mr. *Bartlett*) is recognized for 60 minutes as the designee of the majority leader.

Mr. BARTLETT of Maryland. Mr. Speaker, I was in my office last evening about 11 p.m., as was all the rest of the House of Representatives, waiting for a resolution of some of the concerns on the transportation bill so that we could vote on it, when we were looking at the ``Drudge Report'' on our screen and we saw there a headline that I could hardly believe, that Senator *Frist* had reversed his position on embryonic stem cells and was now advocating the passage of the Senate version of H.R. 810.

I thought it would be appropriate today, with stem cells, embryonic stem cells being so much in the news, if we could spend a few minutes looking at what stem cells are and what this is all about, what was Senator *Frist* talking about and what is the issue here.

I have here on the easel a chart that shows the development, not all of the stages, but it shows the development of the human embryo. It starts with the zygote. The zygote is the fertilized egg. It now has chromosomes, genes from the sperm and genes from the egg, having what we call the diploid number of chromosomes. And that develops through several stages, we will see a little later in another chart, but it goes through the blastacyst stage here and then it goes down to the gastrula stage. And by the time you get to the gastrula stage, the embryo that began as a single cell here just a few days before has now developed into a large number of cells.

What is shown here is the embryo and the part of the wall of the uterus to which it is attached. By this stage in its development, the embryo has already now developed four very specific stem cells that will go on to produce a variety of tissues and organs in the body, all of the tissues and the organs in the body, and we see those down here at the bottom.

Some of them develop into ectoderm. This is the external layer. The ectoderm becomes primarily two things in the developing baby and in the adult. It becomes the skin and the nervous system and some of the pigment cells. Most of what we are in terms of mass is all developed from the middle layer, or the mesoderm, and from that develops all of your skeletal muscle, all of your skeleton, all of your bones, all of your heart muscle, the red blood cells, the smooth muscle in your intestines and stomach and so forth.

Then a third stem cell here ultimately develops into the entoderm. And here we see that this is the lining of the lung, the thyroid gland, and pancreatic cells, nowhere near the mass that is produced by the mesoderm, but very important tissues nevertheless.

Then there are some very unique cells. They are different in the male and the female. They are the germ cells. In the male they produce the sperm and in the female they produce the egg. Some of these stem cells persist even into the adult. In the bone marrow of every adult are stem cells which will produce erythrocytes, your red blood cells, which produce some of your white blood cells. The polymorphonuclear leukocytes will produce those cells that help in clotting, the thrombocytes.

And there are stem cells in other adult tissues. And there has been a lot of research for more than three decades now on using these stem cells to see if we cannot cure or help patients with a number of different diseases. And there have been a number of good applications of adult stem cells. They have produced betterment in a number of individuals, in some cases what looks like actual cures.

But these adult stem cells are limited in their capability because they are already what we call differentiated. They have already split, and a number of the genes have been turned off, and they now are destined to produce only certain kinds of cells. What the researcher tries to do at times is to take these adult stem cells and put them in an environment that convinces them that they are not really an adult stem cell, but that they have gone now back to a more primordial state, that they are back to an embryonic stem cell.

Here in the blastula we see embryonic stem cells. Of course, the ultimate embryonic stem cell is the zygote: one cell, which will divide again and again and again, and then differentiate, and then finally produce all of the cells of the body. But here in the blastula stage we have the cells already differentiated into two different categories: those cells which are going to produce the embryo, and they are shown here in this inner cell mass; and then those cells which will produce the decidua. And the decidua is the cells around this which will become amnion and chorion parts of the placenta. In the stage just before this are the cells that can produce the full embryo.

I would like now to look at our next chart here because this shows the development of the embryo, and it has all of the stages there. It starts with the zygote. Here we have the fertilized egg, or the zygote. Of course, this all begins with an ovary. This is only half of the reproductive system of the female. An ovary which every month routinely during the childbearing years will produce an ovum. Here it shows the follicle rupturing and the ovum coming out. Here is the oocyte. And then here are the sperm, and the sperm of course make their way all up through the uterus and the fallopian tube, clear up here to the end of the fallopian tube.

And by the way, they actually sometimes get out into the abdominal cavity. Sometimes this egg is not picked up by this little funnel-shaped end, and you see part of the funnel here, called the infundibulum. Sometimes that cell does not get out there, and it does not get picked up by the fallopian tube and carried down with the beating of a number of cilia and it goes out into the body cavity. And the sperm may actually get out there too, and it can be fertilized there. We call that an ectopic pregnancy. And of course the baby cannot develop there and it is going to die, and it is going to cause a lot of problems for the mother. So this ectopic pregnancy has to be terminated because it will cause the death of the mother if it continues.

After the fertilization, the egg begins its journey, taking several days, maybe as many as 8, 9, 10 days before it finally reaches the end of the journey and is implanted in the wall of the uterus. It divides first two cells, then four cells, and then eight cells. And I would like to pause for just a moment at that eight-cell stage. Imagine now that we are not in the reproductive tract of the female, but we are in a petri dish in the laboratory, because that is what in vitro fertilization means. In vitro means in glass. And they are now taking the egg from the mother and sperm from the father and they have combined these two and produced this fertilized egg, the zygote. It now divides and divides until they come to the eight-cell stage.

At this stage, more than a thousand times worldwide, in one clinic in England more than 600 times, they have taken in the laboratory under the microscope a cell, and sometimes they get two from that eight-cell stage, and they have done what they call a preimplantation genetic diagnosis. They look at the genes, and you can do that, we now know what they ought to look like, and they can determine if there is any genetic defect.

One of those genetic defects is what we call trisomy 21, mongolism. If there is an extra chromosome at the 21st chromosome, you get what we call trisomy 21, or mongolism. If there is no genetic defect in the cell that they analyze, which would be like all the other cells because they began as a single cell here, then they implant what is remaining, that is the six or seven cells that is remaining, and now more than a thousand times worldwide we have had what looks like a perfectly normal baby born from this process.

This technique, which has been widely used in England, is now used in this country; and just outside Washington, here in Virginia, is a clinic that is doing this. They have done it more than 300 times now. Several weeks ago, I talked for perhaps a half-hour with two of their doctors about the procedure.

Let us now take a look at how they get embryonic stem cell lines. They take an embryo in the laboratory which had been produced by the fertilization of an egg, and they let it develop, not to the eight-cell stage, they go just a little beyond that. They go to the inner cell mass, and then they destroy the embryo. And there are now a lot of cells, not just eight; and they take a number of the cells from the inner cell mass, which I indicated previously had all of the genetic potential to produce the body of the baby, but none of the genetic potential to produce the decidua. And so here we see right at the bottom of this chart we see the decidua developing there, the little fingers like that are growing into the lining of the uterus.

Well, what this debate is all about, Mr. Speaker, is about the morality, really, the ethics of taking this little embryo, which is a baby in miniature, because, you see, if it goes on just a couple of days later and implants in the uterus, it will become a baby, although it is now in the petri dish in the laboratory, but it can be implanted in the uterus, to take this embryo and to destroy it and take the cells from the inner cell mass to produce a stem cell line. Up to this time that has been the only technique that has been available for developing these stem cell lines.

The President had a very difficult decision to make 4 years ago when there was an interest in using Federal monies to fund further embryonic stem cell research. Maybe we ought to pause for a moment, Mr. Speaker, to look at why we are so much interested in stem cell research. Because

these stem cells, as the earlier chart showed, can produce all of the tissues in the body, there is the hope, the promise, and in fact even the realization with some of the work we have done with adult stem cells that we can use these stem cells to replace tissues which have been damaged by disease or some other trauma in the body. We can replace those so as to restore health.

Now, we have a lot of applications from adult stem cells and, as we stand here today, essentially no applications from embryonic stem cells. And why should we have this big debate, Mr. Speaker, about embryonic stem cells when almost all of the applications to medicine have been from adult stem cells? You see, we have been working with adult stem cells for more than three decades, so we have had a lot of opportunity in the medical community to make applications there, but we have been working with embryonic stem cells for only about 6 years, and there just has not been the opportunity to make the medical applications from embryonic stem cells that we have been able to make from adult stem cells.

But because of what embryonic stem cells are, because embryonic stem cells still have all of the capability to produce any and every tissue in the body, doctors and researchers believe intuitively from what they know of embryology that there ought ultimately to be more and better applications from embryonic stem cells than there are from adult stem cells. We do

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not know. It may be that these embryonic stem cells are going to be like unruly teenagers, very difficult to control. You see, their destiny in life is to divide and divide and divide.

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We want them to do that, but we want to be able to control how they divide and what they produce, because if it is a liver the patient needs, you need to convince the cells that is what they ought to be producing, and when they have done enough, they need to quit. They may be very difficult to control. They may keep on dividing, and when you put them in the body, they may form tumors.

Because of what embryonic stem cells do, the medical community and indeed millions of Americans with relatives with devastating diseases believe there are important applications from embryonic stem cells to medicines. We need to provide that opportunity without harming the embryo.

To this date the only way we have gotten these embryonic stem cell lines started is by taking some of the cells from the inner cell mass, which destroys the embryo. In 2001, the President was faced with a very difficult decision. He needed to determine whether Federal funds could be used in embryonic stem cell research when the only way to get embryos at that time was to destroy the embryo.

When the President was making that difficult decision, the scientists at NIH had an open house for Members of Congress and staff to come to NIH and learn about embryonic stem cell research and the potential. I went there, Mr. Speaker, and listened to their presentations. Because in a

former life I was privileged to be able to get a Ph.D., a doctor's degree in human physiology, because I taught medical school, because I had a course in advanced embryology, I knew a little bit about what they were talking about.

As I sat there listening to the researchers at NIH explaining what they were doing and the dreams and the hopes that they had for the applications of embryonic stem cell research, and when I thought about the dilemma that the President was in in trying to decide whether it was okay to destroy these embryos to get a stem cell line that may come up with some miraculous cures, I thought back to my studies and to a course that I had in advanced embryology. And really you do not need to have had that course to understand this, but it occurred to me nature had been doing for a very long time what we needed to do, and that is to take cells from the early embryo without hurting the embryo. Nature had been doing that by producing identical twins. In identical twins, half of the cells are taken away from the embryo, and each half goes on to produce a perfectly normal baby. And one of those identical twins is a clone. Think about that and decide how that relates to the dialogue that we are having on cloning.

Well, there are two different times during the development of the embryo, maybe more, but at least two different times that it can split to produce identical twins. One is at the two-cell stage. Instead of just dividing to make four cells, it splits, so there are now two one-cell embryos, and each one goes on to divide and produce a baby. Or it can wait until the inner cell mass stage, and in some embryos there are two inner cell masses, and that can now split to form identical twins.

Sometimes this is not perfect, and they do not split totally, and we have what we call Siamese twins. This is the origin when the split has occurred probably at the inner cell mass stage, and it is not complete, and they remain close enough that some parts of the body grow together.

We know that the embryo is capable of splitting at these two different stages because of the way the babies present themselves at birth. If they are both within the same amniotic sac, they probably split at the two-cell stage. If each have their own amniotic sac, they probably split later.

It occurred to me since nature many times takes half of the cells away from the early embryo and they go on to produce two perfectly normal babies, we ought to be able to take a cell or two from an early embryo without hurting the early embryo. And I asked the scientists at NIH, should we not be able to do it? They said we ought to be able to do it, although we have not done it.

A little after that I was at an event when the President was there, and I mentioned this possibility to the President. He asked Karl Rove to follow up on it, and a few days later I got a call from Karl Rove saying he had talked to the NIH; the NIH told him what I was proposing was not doable.

I said Karl, either they did not understand your question, or there is some confusion, because these are the same people that can take a single cell and take the nucleus out of that cell and put another in it. Of course they can do this. He went back and asked them again, and he came back and said he got the same answer, that they could not do this, and so the President came down with his executive order.

A couple of years after that, not very many months ago, the people from NIH were sitting in my office, and I asked them how could this have happened. What apparently happened as so often happens, there was a miscom- munication. What they told Karl Rove was they were not sure they could produce an embryonic stem cell line from an embryo that early because they had never done it, not that it was not doable. He interpreted this as saying they could not take the cell, and, therefore, the research could not be done.

I would like to spend just a moment looking at some of the reasons why people are so concerned and why this was such an important decision on the part of the President, and why Senator *Frist*'s decision last night has stirred up so much controversy. It is because there are a very large number of diseases that have the potential of being cured ultimately with the application of embryonic stem cell research.

Let me give us one example, and that is diabetes. Kids come in my office with this hockey puck-like thing under their skin, which is an insulin pump. They have to prick their skin to get a glucose level so they can set the pump, and they are very brittle. It has to be pumped in regularly. This is the most expensive disease in our country, and it is potentially totally curable with stem cell applications. All we need to do is produce some islets of Langerhans cells because these are the cells that just happen to be embedded in the pancreas. There is no reason why they need to be in the pancreas. They have nothing to do with the function of the pancreas, because the pancreas is a big digestive gland at the beginning of the small intestine that produces enzymes that digest fats, carbohydrates and proteins. Embedded in the tissue of the gland are what looked like these little islands to Dr. Langerhans, and so we call them the islets of Langerhans. They produce insulin.

Now, insulin does not cure diabetes, as any family who has diabetes in the family knows; it simply delays the course of the disease. There may ultimately be some problems with the eyes and circulation. You lose some toes, they have to be amputated. If we could create islets of Langerhans cells, which could be under the skin anywhere in the body, anywhere that the blood can get to them so the circulation can pick up the hormone that is produced, this should cure the disease.

And there are many others, particularly the autoimmune diseases, and there are 63 autoimmune diseases. These are diseases where the body gets confused what is really body. There is something very interesting that happens with early embryos. Obviously we need to know what is us so foreign things can be rejected. When you get inside your body, there are no bacteria in there. That is a pristine world. We have a big army of white cells in there that make sure that it is pristine. The white cells are told by what we call T-cells as to what is you and what is not you, so they attack what is not you. Sometimes, and in more people than we would like to have it occur in, sometimes the body gets confused as to what is really you.

I have a little problem, rheumatoid arthritis, which is an autoimmune disease. The body starts attacking itself; and there are 63 of them, and potentially all of them could be addressed with embryonic stem cell research.

Alzheimer's disease, a very tragic disease. Central nerve injury, an injury to the spinal cord, those cells do not grow back. There is a potential you could put new cells in the spinal cord, and people in a wheelchair could walk

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again. There is that potential, and that is why embryonic stem cell research is of such great interest, because of the enormous potential that they ought to have because they are so totally undifferentiated because they can produce any and every cell in the body.

I have been working with the White House, with the National Institutes of Health, with the Conference of Catholic Bishops, and with the prolife community in developing a bill, H.R. 3144, which would permit research on not just the procedure that I recommended more than 4 years ago now, but several other procedures that are outlined in a little book here called Alternative Sources of Human Pluripotent Stem Cells, A White Paper, produced by the President's Council on Bioethics, and they talk about four different kinds of research, four different ways of procuring embryonic stem cells that might be ethically acceptable to the prolife community.

The first of these is pluripotent. By pluripotent, they mean cells that have the capability of producing all of the tissues of the embryo, but not the decidua. That is a totipotent cell. Pluripotent stem cells are derived from embryos that are essentially moribund, dead; the equivalent, if you will, of an adult that is brain dead.

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It is perfectly ethical, most people believe, to take organs, that is how we get organs for transplant from adults that are brain dead, so if you now have an embryo which is obviously not going to develop, but it still is alive enough that you might take cells from it to produce a stem cell line, if you really knew that it was dead and could never produce a baby, then ethically it would appear to many people to be okay to take cells from that to establish a stem cell line. You might have a little concern that an embryo that had sat there a day or two and never divided because there was something wrong with it, that the cell you took from it to produce a stem cell line might not produce just the high-quality stem cell line that you might like for research, but at least it is worth exploring, and it gets by the ethical arguments.

The second one of their proposals, and I would like to look at the next chart now as we do that. Let me just look at this chart for a moment here with you. This comes from a white paper on the President's Council on Bioethics. Let me look at the highlighted portion: ``It may be some time before stem cells can be reliably derived from single cells extracted from early embryos.'' That is the procedure that I was talking about that occurred to me when I was out at NIH talking to the investigators there. ``And in ways that do no harm to the embryo, thus biopsied. But the initial success of the Verlinsky's Group's efforts at least raises the future possibility''--Verlinsky is a Russian scientist working in this country who says that he has done what NIH said they were not sure they could do, and that is to produce an embryonic stem cell line from one cell taken from an early embryo--``at least raises the future possibility that pluripotent stem cells could be derived from single blastomeres.'' A mere is a cell, and it is taken from the blastula so it is a cell

taken from the blastula. A blastomere. ``Removed from early human embryos without apparently harming them."

And then the asterisk there. If you look down at the bottom of the page, it says, ``A similar idea was proposed by Representative **ROSCOE BARTLETT** of Maryland as far back as 2001." What they are referring to is the recommendation that I made to the President that he relayed on to Karl Rove. This is recognized in this fairly recently published white paper, Alternative Sources of Human Pluripotent Stem Cells, a white paper by the President's Council on Bioethics. This is one of four different procedures. The first, you remember, was taking cells from an embryo that is essentially moribund, it is going to die, and like the person who is brain dead, why not get some benefit from it. We do that with organ transplants all the time.

The third one is very interesting, and that is to produce pluripotent stem cells derived from biological artifacts. There are two artifacts that they are looking at to do this. One of those goes back to this little embryo in the petri dish that we talked about. What they want to do is go in that early embryo and turn off some of the genes. We know how to do this. To turn off some of the genes so that it can never produce a baby, but could go on dividing and produce a mass of cells. They call this an artifact. If it is not going to be a baby, it is just this mass of cells growing, maybe it is okay to take cells from it to produce an embryonic stem cell line.

But some people might have a little concern, Mr. Speaker, that you have gone in early and messed up what could have become a perfectly normal baby, you have turned off some of the genes so it cannot, so now you have created kind of a freak that you can take some cells from, and since it is not going to be a baby, it is okay to take the cells from that. But at least it is a way of getting embryonic stem cells without destroying what at that moment is perfectly normal stem cells.

There is another possibility, and that is parthenogenesis. That is the development without the union of sex cells. The fourth technique is an interesting one and that we are trying to do all the time. That is to take what is called the pluripotent stem cells via somatic cell dedifferentiation. A somatic cell simply means a body cell. The soma is the body. Take a body cell from anywhere in the body, skin, muscle, lungs, anywhere, and dedifferentiate it, try to produce this cell in an environment that it is confused as to what it is, that it kind of thinks and behaves like it is an embryonic stem cell. If we can do this, that is great, because ethically there should not be any problem doing this. But this has not been done. There are big technical challenges to doing this.

Now, this white paper gives a very good discussion of the proposal that we made; that is, of getting cells via blastomere extraction, sometimes called biopsy. You are going in and just taking out a cell or two. They even talk about producing the repair kit, which would be really advantageous to the baby through all of its life now. If it needed a new liver, new islet of Langerhans cells, if it needed new spinal cord cells, hopefully in the future we would be able to produce those from this repair kit.

But when they get back for some strange reason, Mr. Speaker, it almost looks to me like two different groups wrote the body of this text where they talk about this technique and where they make the recommendations, because in the recommendations they say the second proposal,

blastomere extraction from living embryos, we find this proposal to be ethically unacceptable in humans. Owing to the reasons given in the ethical analysis, we should not impose risks on living embryos destined to become children for the sake of getting stem cells for research.

I agree. That is not the reason the stem cells are taken from this baby. As a matter of fact, if the cells are taken with no thought that they are stem cells, the cells will be taken by the parents to produce a repair kit or to do a preimplantation genetic diagnosis for the baby, and I think that most Americans do not have an ethical problem, Mr. Speaker, with in vitro fertilization. I think that most Americans do not have an ethical problem with deciding that your baby is not going to have a genetic defect. I do not think that hardly any Americans could ever have a problem with establishing a repair kit for your baby.

What is envisioned is that at the end of the day, the parents would have made at least two ethical decisions, what I consider ethical and I think what most people consider ethical; that is, to have their own baby, the only way they can do it is in vitro, and to establish a repair kit for their baby, and then all that needs to be done to get another stem cell line is to ask them, Couldn't we have some surplus cells from the repair kit that you have established.

There is a big discussion going on in our country now, Mr. Speaker, about embryonic stem cells. They voted how many billions of dollars in California to pursue embryonic stem cell research because a big percent of our population believes that there could be a major medical application there which would provide miraculous cures for many of our diseases. And then we have a large number of people, the prolife community, that have a big problem with taking these embryos, any one of which

could become a baby, we have more than 100 of them, is what we call the snowflake babies that have been adopted, implanted in the receptive womb of a mother, and they

become a baby; to take this human life, and it is a life, and it is human, and destroy it so that you can produce a stem cell line.

Most of this debate ignores the fact simply because the debaters do not know that it is possible, Mr. Speaker, to get embryonic stem cell lines without harming embryos.

I would like to go back again to the second chart I showed, which is the path of the reproductive tract of a female, so that we can look at this again together so that we understand clearly what we are talking about here. We will imagine now that this is happening in the laboratory and it is in a petri dish, in glass. In vitro is what we call it. Because the parents could not have a baby any other way, they decided to have in vitro fertilization, and they decided they would like to at least do one thing, and that is to establish a repair kit for their baby. They might also want to do a preimplantation genetic diagnosis.

So now the physician in the clinic will wait until the cells divide and produce several embryos. By the way, they do not all produce really good-looking embryos, and so what they do is to

fertilize more than one egg, and they then watch the development of these embryos, and they will take the best of them and generally more than one of them.

One of my colleagues, Congressman *Rohrabacher* from California, his wife had three beautiful babies from in vitro fertilization. I do not know how many the doctor implanted, but at least three of those that he implanted grew, and she had triplets. I saw a recent picture of them in their little life vests out in the surf in California.

There is a potential ethical argument in doing this even if we let the parents make the decision they are going to do the in vitro fertilization, if the parents make the decision that they are going to establish a repair kit, and then all we ask for is a few cells from that repair kit. You see, if the cell is taken from the eight-cell stage, then you could make the argument that maybe the cell you took could become another embryo. So then you start all over again with the ethical argument. You now have another embryo. And so you now ethically should not destroy that embryo with the hope that you are going to have some applications to health care for somebody else.

There is, Mr. Speaker, one way to avoid this, and it is one of the things that our research, H.R. 3144, would pursue, and that is waiting a little later to take this cell. I am not sure for all the reasons that they take the cell at the eight-cell stage, but that is the convention. If you waited to take that cell from the inner cell mass stage, which is a little later, a few days later, then the differentiation has already occurred to the point that the cells in the inner cell mass which can produce the whole baby, but they cannot produce a baby by implantation because they have lost the ability to produce decidua. So you have now removed that possible ethical argument, although those who wrote the white paper on the Alternative Sources of Human Pluripotent Stem Cells do not believe that you could do this. But if there is any possibility that you could do that, then for those whose sensitivities would be offended by this, if we could demonstrate that you could take it from the inner cell mass stage, now you have bypassed even that.

Our bill, H.R. 3144, is a bill that looks for the moment only at animal experimentation, because we believe that before you go to humans, you ought to know that what you are doing is going to work and that it has worked. The best way to do that is to go to animals and ultimately to what we call nonhuman primates; that is, the big apes which genetically, by the way, are remarkably close to humans. It may be embarrassing, Mr. Speaker, to look at the genetic complement of one of the great apes and look at our genetic complement. There is not all that much difference in us. Once we have demonstrated it there, then we could have more certainty that it is going to work in humans.

What we do not need, Mr. Speaker, is for millions of Americans to feel that their last best hope for a cure for their relative had been removed when the President vetoes H.R. 810 and its Senate complement, which he has said he would do, which I hope he does. I think it is the ethical thing to do.

What we need, Mr. Speaker, is to have this bill on the President's desk so that those millions of people out there who believe that there is potentially a lot of applications in health care from embryonic stem cells will know that the Federal Government believes with them that this is possible; that we are going to support responsible, ethical research, using cells taken from early

embryos that certainly do not kill the embryo, do not harm the embryo. As a matter of fact, if, Mr. Speaker, we get those cells, the surplus cells from the repair kit, then the parents have made two decisions which I think, and I believe most Americans will believe, are ethical, one, to have their own baby, the only way to do it is in vitro; secondly, to establish a repair kit so that at any time during its life, their child is going to have the potential for new tissues, new organs, new cells that is going to be them, so there will be no rejection.

Mr. Speaker, what we saw last night I hope results in a very positive eventuality. I hope that by the time H.R. 810 and its Senate complement gets to the President's desk, that also on his desk is H.R. 3144, so that the President can say, today I proudly sign a bill which provides for research which has the potential of producing embryonic stem cells for all the miraculous applications to health care that citizens all across the country believe. Because in State after State now they are voting in referenda to provide, sometimes in the legislature, sometimes just a vote of all the people, to provide very large amounts of money statewide because the Federal Government is not doing it, and they believe there is a big potential there.

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I hope that in the not-too-distant future, Mr. Speaker, that we will be using Federal funds to support responsible, ethical embryonic stem cell research, and H.R. 3144 will do it.

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